The Economic Recovery Tax Act: Are There Incentives for a Changed Farm Size Structure?

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Introduction

The Economic Recovery Tax Act of 1981 (ERTA) was signed into law on August 13, 1982. Incorporated into this legislation were substantial changes in depreciation and tax calculation procedures. Although this act does not contain provisions specific to agriculture, it will likely affect the investment and economic activity of this sector. For instance, Durst, Rome, and Hrubovcak [3] have identified twenty-six provisions of the new law which are significant to the agricultural sector. The degree to which these affect agriculture has not yet been fully determined.

The effects of income tax policy on the structure of the farming industry have long been argued. Raup [6] has suggested that such income tax policies as investment tax credits, accelerated depreciation, use of cash basis accounting, and the deductibility of interest as a business expense stimulate the demand for capital items. Gardner [4, p. 839] has noted that the tax code contains provisions which "enable an operator to increase wealth by investment without incurring the tax liabilities that at first glance the tables might suggest". Boehlje and and Carmen [1, p. 1036] suggest that the 1981 law may increase this potential because it allows for substantial increases in the present value of depreciation deductions over that allowed in pre-1981 law. Further, they argue that 1981 depreciation methods can have "a differential impact on after-tax returns for farm enterprises" and because enterprise mix will vary by region of the nation, the new tax law will have "significant regional impacts on effective tax rates" for farmers.

Casler [2] does not necessarily agree with these suggested impacts. He constructed several examples where the present value of depreciation

was greater under pre-1981 law than for post 1981-law. Casler concludes that the advantage of The Accelerated Cost Recovery System (the 1981 depreciation method) is largely for assets acquired late in the year by relatively large farmers.

The purpose of this paper is to investigate the likely impacts on farmers' tax liabilities resulting from changed depreciation rules and tax rate schedules as provided by ERTA. Simulation of depreciation deductions and tax liabilities using farm records data will be reported. Features of both pre- and post-ERTA law are simulated. The differential impact of the changed tax law across farm size is a primary focus.

The 1981, 1982 Tax Acts

In an apparent effort to stimulate investment in capital assets, authors of the ERTA incorporated major changes in depreciation methods, investment tax credits and the tax rate structure. The Accelerated Cost Recovery System (ACRS) replaced existing depreciation methods. Under this system, all assets are categorized into four life classes. Automobiles, light-duty trucks and breeding swine are examples of three year property. Most equipment, breeding cattle and sheep, tile, storage facilities, and single purpose agricultural buildings are five year property. Other buildings and most land improvements are fifteen year property. The depreciation deduction under ACRS is determined by multiplying the unadjusted basis in the property by a specified percentage. Salvage values are ignored for recovery property in all depreciation calculations after 1981.

The additional first year depreciation (AFYD) of pre-ERTA tax law was replaced with an expensing provision. One difference of the expensing provision from AFYD is that it is limited not to 20 percent of the qualifying investment (up to $20,000 if married filing jointly), but rather to $5,000 per year. The amount expensed reduces the basis for calculation of both depreciation and investment tax credit.

The ERTA also liberalized the rules concerning investment tax credits (IC). Under pre-ERTA law, only machinery, equipment, or single purpose agricultural structures with depreciable lives of seven or more years were eligible for the full 10 percent IC; assets with depreciable lives of 5 or 6 years were eligible for a 6 percent IC and those with depreciable lives of 3 or 4 years could receive 3 percent IC. If an asset was sold prior to a 3-year (5 year) holding period the entire (one third) IC was subject to recapture. ERTA allows a 10 percent IC for all 5 year property and a 6 percent IC for 3 year property. The IC recapture rule was modified to allow some IC even if the asset were held only for one year. Furthermore, increases in the IC limitation were scheduled for each of the years 1981-83.

The ERTA also contained provisions for reductions in the tax rate schedules in each of the years 1981-84. The general effect was an across the board rate reduction of 5 percent in 1981, 10 percent in each of 1982 and 1983, and a further 5 percent reduction for 1984.1/ The result was a reduction in the maximum tax rate from 70 percent in 1980 to 50 percent in 1983.

To moderate some aspects of the ERTA, Congress passed the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA), with most provi-

sions effective in 1983 and later years. The TEFRA provided several changes in depreciation and investment tax credit calculations. The taxpayer was given the option to either (1) to claim the full investment tax credit but reduce the basis for depreciation calculation by the amount of 50 percent of the IC claimed or (2) reduce the investment tax credit percentage by 2 percent and continue to calculate the depreciation on the unadjusted basis. Furthermore, the TEFRA reduced the maximum amount of IC which would be claimed and cancelled an increase in the rate of depreciation scheduled to take place in 1984.

The Data Source and Tax Simulation

The source of data for these analyses is a sample of individual cash grain producers, drawn from the Illinois Farm Business Farm Management Association (FBFP). The membership of the FBFM does not constitute a random sample of Illinois farmers; however, the difference in these groups may not be great. Mueller [5, p. 292] compared a sample of FBFM cooperators to a random sample of Illinois producers and concluded that the differences were "essentially differences in the quantity of basic resources, particularly land and capital utilized by the farm operators. . . and, given equal basic resources, managerial ability is not greatly different on record keeping and survey farms".

There are aspects of the FBFM sample which provide more accurate data than that which could be expected from a random sample of producers. The FBFM records are standardized in accounting format. Further, field agents are used to increase accuracy and standardization. The

FBFM records also provide observations for a relatively large number of producers for a multi-year period.

A sample of FBFM cash grain producers is used in these analyses. There were records for 167 producers who were continuously enrolled in the FBFM program for the five year period, 1975-79. Average farm size was 522 tillable acres with a standard deviation of 229 acres. Farm sizes ranged from 140 to 1632 tillable acres.

Because it is the purpose of this study to compare the tax liabilities of different size farm operations and for farmers using various methods of tax computation, it is necessary that substantial information concerning income, expenses, and depreciable investment inventories be included. Although the FBFM records data do not specifically include a measure of the federal income tax paid, the information required for these calculations is available. A schedule of depreciable assets for each farm includes the acquisition date, value of trade-in, and purchase price for each asset.

In the following analyses, depreciation and income taxes were simulated utilizing the 1975-79 investment data and assuming, in turn, the provisions of the 1980, 1981, 1982 and 1983 tax codes. In each case, the tax law was assumed to have been in place through the entire 1975-1979 period. A difficulty with this methodology arises because the actual investment decisions of the farm operators during this period were not based on the post-ERTA tax codes. Because the ERTA allows investments to be depreciated more quickly than the prior provisions, it is reasonable to believe that farmer investments would have been larger had this law been in effect during the 1975-79 period. Hence, the

amount of ACRS depreciation is probably understated and the resulting tax liability is therefore overstated in this simulation. Furthermore, because of the short time series of data available, carryback and carryforward provisions of the law were not recognized in the simulation. This also will tend to understate the difference in pre- and post-ERTA tax liabilities.

A Comparison of ACRS and Pre-ERTA Depreciation Methods

To allow comparison of pre- and post-ERTA depreciation provisions, depreciation and taxes were simulated by applying each of these depreciation methods to the 1975-79 accounting data of the FBFM sample. In each case the designated tax law was assumed to have been in place throughout the entire five year period2/ The producer was assumed to make full use of investment tax credits as provided by each law. For cases of partial ownership the tax calculation is for the operator share only.

For the pre-ERTA depreciation calculation the declining balance depreciation method was used. Asset service lives of 7 years for machinery and 20 years for buildings were assumed. Seven years corresponds with the minimum service life at which full investment tax credit could be claimed for machinery and equipment assets. Twenty years is the minimum length of life specified for farm buildings in the Class Life ADR guidelines of 1980 law. Zero salvage values were assumed. Declining balance depreciation rates of 100, 150, and 200 percent of the straight line rate were used for different asset categories as specified in the 1980 tax code. It was also assumed that the producers

would make full use of the additional first year depreciation (AFYD) provision of the 1980 law.

Post-ERTA depreciation was simulated using the ACRS method. All machinery, equipment and single purpose buildings were classified as 5 year property. All other buildings were classified as 15 year property. The expensing option of ERTA was in turn included and excluded from the simulation.

Table 1 presents the results of the simulation for each of the years 1975-79. Depreciation values (including AFYD) resulting from application of the pre-ERTA method ranged from an average $11,804 in 1975 to $15,814 in 1979. Application of the ACRS method (without the expensing option) resulted in average depreciation values of $13,019 and $20,834 for 1975 and 1979, respectively.3/ Utilization of the expensing option of 1981 law reduced the amount of the depreciation deduction. This is because the amount of expensed investment is excluded from the basis for depreciation. The expensed amount also reduces the basis for investment tax credit calculation. The result is a smaller IC when the expensing option is taken, and for this sample, a larger tax liability after credits.

The tax liabilities (before credits) presented in Table 1 indicate the magnitude of tax savings attributable to the changed depreciation method. The tax rate schedules employed in 1980 and 1981 were identical; the sole difference was a 1.25 percent tax credit available to all taxpayers in 1981. However, this credit is not reflected in the tax before credits reported in Table 1. The changed tax liability (before credits) due solely to the change in depreciation method ranged from

$418 to $1,497 over the five year period (expensing option ignored). When the expensing option is utilized, however, the magnitude of tax savings is decreased.

Impacts of the TEFRA

The 1983 tax law was changed by the TEFRA to either (1) reduce the basis of depreciable assets or (2) reduce the amount of investment tax credits which could be claimed by the producer. This resulted in reduced tax savings for producers over that originally specified by ERTA. Table 2 presents the depreciation, taxable income and tax liability amounts for each of the TEFRA provisions when applied to the 1975-79 farm data. In both cases the expensing option is ignored. Comparison of these options indicate that in each year the average producer realizes smaller taxes by using the prescribed basis reduction method. Using this method, tax liability before credits is larger than for option 2 method (reducing IC percent). However, the amount of IC is substantially larger under option 1, (basis adjustment) thus resulting in a lower final tax liability.

Also represented in Table 2 are the tax amounts resulting from application of the original ERTA provisions (ignoring the modifications of TEFRA) for 1983. For the average farmer the results of the limitations imposed by the TEFRA are increases in tax liability over that originally provided by ERTA.

The Impacts of Farm Size on Effective Tax Rate Structure

As has been shown in Tables 1 and 2 the modification of the tax law by ERTA has had the effect of reducing the tax liabilities for the

average producer in the sample. A comparison of the 1980 and 1981 tax laws applied to the 1979 records data indicated that 77 percent realized lower taxes under the 1981 law. An additional 20 percent had no tax change resulting from the changed tax law.

The preceding analysis does not address the potential differential impacts of the changed tax law across farm sizes. The presence of such a size related impact may have serious consequences on the changing size structure of agriculture. To address this question, the results of the tax simulation were compared by farm size class. Table 3 presents these results for the 1979 production year for six tillable acreage classes.

Because of the combined effects of changed depreciation methods and tax rate reductions schedules, the tax liability for each class is reduced for each of the tax code applications, 1980-83. Because the tax liability is declining with the application of each successive tax code larger amounts of IC are available for carryback/ carryforward. These carryback provisions are not reflected in this analysis and, hence, the tax savings associated with the ERTA are understated.

To better illustrate the relative changes in taxes associated with increased farm size, consider the following definitions: (1) the average tax rate (ATR) is the tax liability (after credits) divided by the operator's taxable income, and (2) the gross average tax rate (GATR) is the tax liability (after credits) divided by the operator's gross receipts. Both measures are expressed in Table 3 as percentages. The first measure is comparable to an average tax rate as computed from the Internal Revenue Service tax rate schedule except that the measure reported in Table 3 uses tax after credits. The calculation was made in

this manner in order to display the differential impact of IC across farm size. The GATR is intended only as a measure of tax per dollar of gross income.

To examine the effects of farm size on the income tax liability, compare the average and gross average tax rates for farms of different size classes. For all tax calculation methods these average tax rates tend to increase as farm size expands. For each size class, successive application of the 1980-83 tax codes results in a substantial decline in effective tax rates. Furthermore, the degree of progressivity of the tax rate is diminished substantially from application of the 1980 and 1981 tax codes. Using the class average tax liabilities from table 3, the 1981 tax after credits as a percent of the 1980 final tax liability ranged from a high of 81.3 percent in the 200 - 399 acre class to 71.0 in the 800 - 999 acre class. Comparison of the within class relative change in final tax liability suggests that the progressivity of the tax rate is not greatly different for the 1981-83 codes.

Figure 1 indicates the distribution of the GATR for the 1979 records data for application of each tax code, 1980-83. With each successive tax code application, the percent of producers with a zero tax liability increases. Similarly, with each successive tax code application the number of producers in the higher effective tax rate classes is diminished. Using the 1983 tax code, 69 percent of the sample had gross average tax rates of less than 5 percent and 25 percent had a zero tax liability. Under the 1980 tax code, these same measures were 56 and 20 percent, respectively.

Results of a Statistical Analysis

In order to measure the size effects of the alternative tax calculation methods, a tax rate function was estimated for each method. Ordinary least squares regression was the analytic tool used. More specifically, an analysis of covariance technique was applied because of the pooled nature of the data (a five year time series of cross sectional data). A pooled analysis was chosen because it takes into account more information in the estimation of the farm size-tax obligation relationship.

The dependent variable in each scenario was the tax liability after credits. In order to reflect differential effects of farm size on the tax liability, the estimation equation used was quadratic in operator's gross income. Binary variables were included to control for annual shifts in the tax function arising due to inflation or productivity changes. Results for these analyses are reported in Table 4.

In all four tax calculation scenarios; the explanatory models were highly significant. The regression coefficients for both gross income and the square of gross income were statistically significant at the 0.01 level of probability in each model. The positive coefficients indicate a function which is monotonically increasing.

In order to better view the progressivity of these tax calculation methods, additional gross tax rate functions were derived. The gross tax function reported in Table 4 is:

$$TAX = B_0 + B_1\ GI + B_2\ GI^2 + e_1 \qquad (1)$$

where TAX is the value of the federal income tax liability (after credits), B_0 is the intercept including the appropriate year shifter

(binary variable), GI is the operator's gross income, and e_1 is a random component. The gross tax functions are presented graphically in Figure 2(a). Note that there are substantial downward shifts in the gross tax function for application of each of the tax codes, 1980-1981.

The gross marginal tax rate function (GMTR) is the first derivative of (1) with respect to gross income.

$$GMTR = B_1 + 2B_2\ GI + e_2 \qquad (2)$$

The GMTR function expresses the marginal change in taxes (as a proportion) as gross income increases. The decline in the slope of the GMTR functions from application of the 1980 and 1981 tax codes indicates a reduction in the rate of progression of the effective tax rate. To test the significance of this change in slope, the regression coefficients for income squared were compared for the regressions reported in Table 4. The regression coefficient was significantly smaller (at the 0.01 probability level) for 1981 law than the 1980 law. The same result held for comparison of the 1982 and 1981 regression coefficients. The conclusion is that the degree of progression of income tax with respect to gross income is smaller as a result of the tax code changes of 1981 and 1982. The regression coefficients for income squared for the 1982 and 1983 tax code regressions were not statistically different at the 0.1 level of probability. Hence, the rates of progression of the 1982 and 1983 tax codes are statistically not different. The GMTR is displayed graphically in Figure 2(b).

Finally a gross average tax rate function (GATR) was calculated by simply dividing (1) by gross income.

$$GATR = B_0/GI + B_1 + B_2\ GI + e_3 \quad (3)$$

Gross average tax rate is strictly a measure of income tax per dollar of gross income and is analogous to the rate calculated directly in Table 3. The GATR function is shown graphically in Figure 2(c). The differential impact of farm size is again apparent from this figure. For a gross income level of $300,000, the difference between the 1980 and 1981 tax liabilities is about two cents for every dollar of gross income.

Summary

In the preceding analyses, the federal tax liabilities for individual producers were simulated using, in turn, features of the 1980, 1981, 1982 and 1983 tax codes. ACRS depreciation was significantly larger than that calculated under the 1980 tax law. Tax after credits also was significantly smaller assuming the 1981 tax law. Further, the marginal tax rate was less progressive under the 1981 law.

The 1981 tax code primarily differed from that of 1982 in the lower marginal tax rates of the latter. Producers of all farm sizes realized lower average tax rates as a result. By applying the 1982 rather than the 1981 tax code, tax as a percent of gross income (GATR) declined from 3.64 to 3.19 for the average producer (1979 records). The effective progressivity of the final tax liability across farms of different sizes was essentially unchanged.

The modifications of the tax law created by the 1982 TEFRA did increase the tax liability of the average producer in the sample over that which was originally scheduled for 1983 by the ERTA. Still, owing

to the reduced marginal tax rates provided in the 1983 code, tax liabilities were reduced from those of the 1982 tax code. The effective progressivity of the rate was relatively unchanged between 1982 and 1983.

The changes introduced by the ERTA produce a less progressive effective tax rate than the existing law which it replaced. The result is a smaller tax disincentive for farm size expansion in post-ERTA law than in pre-ERTA law. If pre-tax incentives for farm size expansion do exist, such expansion is more likely now because tax related disincentives were diminished with the 1981 tax act.

Notes

1. The tax rate cuts occurred for the last quarter only of each year. Hence, the effective tax rate reductions were 1.25, 10, 10 and 3.75 percent in 1981 - 1984, respectively.
2. In fact, the designated tax code was assumed to have been in place prior to 1975. Depreciation for assets purchased in preceeding years was recomputed using either the declining balance method (1980 tax code) or the ACRS method (1981 and subsequent tax codes).
3. A paired t-test was used to test for differences between the 1980 and 1981 depreciation amounts. AFYD was included in the 1980 depreciation. Results indicated the 1980 depreciation was significantly smaller (at the 0.01 level) than that under 1981 law.

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Table 1: A Comparison of the Depreciation Methods in Pre- and Post-ERTA Tax Law

Measure		Year				
		1975	1976	1977	1978	1979
Number of farms		167	167	167	167	167
Operator's gross income	($)	79,197	90,321	86,263	87,043	98,294
1980:						
Depreciation [a]	($)	11,804	14,484	15,249	15,239	15,814
Taxable income	($)	28,540	34,094	28,590	26,541	28,260
Tax liability before credits	($)	7,291	9,202	7,132	6,450	6,812
Tax liability after credits [b]	($)	5,525	6,844	5,414	4,916	5,307
1981: without expensing option						
Depreciation	($)	13,019	16,665	18,967	20,199	20,834
Taxable Income	($)	27,335	31,964	25,035	22,086	23,469
Tax liability before credits	($)	6,873	8,351	5,970	5,087	5,315
Tax liability after credits [b]	($)	5,047	5,936	4,284	3,662	3,952
1981: with expensing option						
Depreciation	($)	9,178	12,251	14,673	15,872	16,565
Expensed investment [c]	($)	4,395	4,535	4,354	4,210	4,215
Taxable Income	($)	26,792	31,586	24,978	22,178	23,542
Tax liability before credits	($)	6,717	8,241	5,929	5,101	5,349
Tax liability after credits [b]	($)	5,268	6,219	4,587	3,973	4,287

a Includes additional first year depreciation.

b Tax credits include both investment tax credit and a 1.25 percent credit allowed all taxpayers in 1981.

c Although the Section 179 Expensing provision was not placed into use until 1982, its provisions were included here to illustrate its impact prior without the 1982 tax rate reductions.

Table 2: The Impacts of the TEFRA on Depreciation Deductions, Investment Tax Credits and Income Tax Liability.

Measure		Year				
		1975	1976	1977	1978	1979
Number of farms		167	167	167	167	167
Operator's gross income	($)	79,197	90,321	86,263	87,043	98,294
1983: Basis reduction method a,d						
Depreciation	($)	12,416	15,888	18,083	19,270	19,884
Taxable income	($)	27,920	32,729	25,857	22,896	24,308
Tax liability before credits	($)	5,749	7,022	5,069	4,330	4,530
Allowable IC	($)	1,738	2,301	1,613	1,361	1,298
Tax liability after credits	($)	4,011	4,721	3,456	2,970	3,232
1983: IC rate reduction method b,d						
Depreciation	($)	13,019	16,665	18,967	20,199	20,834
Taxable income	($)	27,335	31,964	25,035	22,086	23,469
Tax liability before credits	($)	5,585	6,787	4,851	4,132	4,318
Allowable IC	($)	1,411	1,875	1,307	1,105	1,054
Tax liability after credits	($)	4,174	4,912	3,543	3,026	3,264
1983: Without provisions of 1982 TEFRA c,d						
Depreciation	($)	13,019	16,665	18,967	20,199	20,834
Taxable income	($)	27,335	31,964	25,035	22,086	23,469
Tax liability before credits	($)	5,585	6,787	4,851	4,132	4,318
Allowable IC	($)	1,718	2,272	1,580	1,329	1,256
Tax liability after credits	($)	3,868	4,515	3,271	2,803	3,061

a The basis of depreciable assets is reduced by 50 percent of the amount of investment tax credit.

b The investment tax credit is reduced from 10 percent to 8 percent for five year property.

c This simulates the 1981 ERTA law without the modifications imposed by TEFRA.

d The expensing option is not utilized.

Table 3. Classification Analysis of the Tax Liabilities for the Operator's Share of Farm Receipts, 1979

Measure		SIZE CLASS (Tillable Acres) Under 200	200-399	400-599	600-799	800-999	1,000 & Over
Number of Observations		3	50	65	28	11	10
Tillable Acreage		174	320	493	682	884	1,224
Operator's Gross Income		41,038	63,899	92,842	115,834	161,579	204,164
1980 Tax Law[a/]							
Depreciation	($)	3,832	7,284	13,059	17,365	21,836	30,798
AFYD	($)	177	1,683	2,369	3,045	2,442	3,108
Taxable Income	($)	14,372	21,247	28,469	30,164	46,608	40,621
Tax Before Credits	($)	2,209	4,343	6,447	7,328	14,474	13,039
Allowable IC	($)	89	843	1,512	2,267	1,938	2,588
Excess IC[b/]	($)	0	358	379	642	909	1,559
Tax After Credits	($)	2,120	3,500	4,935	5,061	12,536	10,451
Average Tax Rate[c/]	(%)	10.6	11.3	13.8	12.1	21.0	16.0
Gross Average Tax Rate[d/]	(%)	3.9	4.7	4.9	4.3	7.6	4.7
1981 Tax Law:							
Depreciation[a/]	($)	5,381	11,413	20,527	26,309	34,177	44,568
Taxable Income	($)	13,000	18,900	23,521	24,331	37,424	31,352
Tax Before Credits	($)	1,824	3,680	5,000	5,582	10,640	9,985
Allowable IC	($)	89	796	1,322	1,907	1,623	2,213
Excess IC[b/]	($)	0	405	569	1,002	1,224	1,934
Tax After Credits	($)	1,714	2,847	3,632	3,629	8,904	7,675
Average Tax Rate[c/]	(%)	9.8	9.8	10.8	9.1	17.3	12.4
Gross Average Tax Rate[d/]	(%)	3.2	3.8	3.5	3.1	5.4	3.4
1982 Tax Law:							
Depreciation[e/]	($)	5,381	11,413	20,527	26,309	34,177	44,568
Taxable Income	($)	13,000	18,771	23,125	23,705	36,709	29,625
Tax Before Credits	($)	1,624	3,299	4,487	5,012	9,573	8,995
Allowable IC	($)	89	775	1,284	1,845	1,612	2,208
Excess IC[b/]	($)	0	423	608	1,064	1,235	1,938
Tax After Credits	($)	1,535	2,524	3,203	3,167	7,961	6,786
Average Tax Rate[c/]	(%)	8.6	8.6	9.5	7.9	15.3	10.8
Gross Average Tax Rate[d/]	(%)	2.8	3.3	3.1	2.7	4.8	3.0
1983 Tax Law:[f/]							
Depreciation[e/]	($)	5,203	10,905	19,581	25,102	32,598	42,564
Taxable Income	($)	13,178	19,351	24,404	25,446	38,824	32,653
Tax Before Credits	($)	1,515	3,083	4,271	4,801	9,115	8,546
Allowable IC	($)	89	777	1,302	1,883	1,636	2,225
Excess IC[b/]	($)	0	424	589	1,026	1,211	1,922
Tax After Credits	($)	1,426	2,305	2,969	2,918	7,479	6,321
Average Tax Rate[c/]	(%)	7.8	7.8	8.6	7.1	14.0	9.9
Gross Average Tax Rate[d/]	(%)	2.6	3.0	2.9	2.5	4.5	2.8

a/ Utilizes the declining balance method of depreciation calculation.
b/ This is the amount by which IC exceeds tax liability. These credits are available for carryback/carryforward.
c/ (Tax After Credits/Taxable Income) x 100
d/ (Tax After Credits/Operator's Gross Income) x 100
e/ The expensing option was not used.
f/ The basis for depreciation was reduced by 50 percent of the investment tax credit as required by TEFRA.

Table 4. A Covariance Analysis of Tax After Credits as a Function of Operator's Gross Income, Illinois Cash Grain Farms, 1975-79.

Variable	1980 Tax Law[a/]		1981 Tax Law[b/]		1982 Tax Law[b/]		1983 Tax Law[c/]	
	B	t	B	t	B	t	B	t
Intercept	-1911	-2.27**	-1198	-1.54	-1086	-1.54	-946	-1.47
Gross Income	0.075	5.01*	0.062	4.52*	0.055	4.39*	0.048	4.18*
Gross Income Squared	1.95 E-7	3.12*	1.68 E-7	2.92*	1.50 E-7	2.87*	1.50 E-7	3.12*
Binary Variables:								
Year = 1976	60	0.10	-173	-0.33	-176	-0.36	-151	-0.34
Year = 1977	-898	-1.57	-1427	-2.71*	-1272	-2.66*	-1092	-2.49**
Year = 1978	-1506	-2.64*	-2142	-4.06*	-1901	-3.92*	-1655	-3.78*
Year = 1979	-2414	-4.18*	-2948	-5.53*	-2586	-5.35*	-2283	-5.16*
R-Square	.48		0.44		0.43		0.43	
F-Value	128.66*		110.05*		104.80*		105.47*	

a/ Utilizes declining balance depreciation method.
b/ The expensing option is not included.
c/ Basis for depreciation calculation is reduced by 1/2 of the investment tax credit as required by the 1982 TEFRA. The expensing option is not included.
* Statistically significant at the 0.01 level of probability.
** Statistically significant at the 0.05 level of probability.
*** Statistically significant at the 0.10 level of probability.

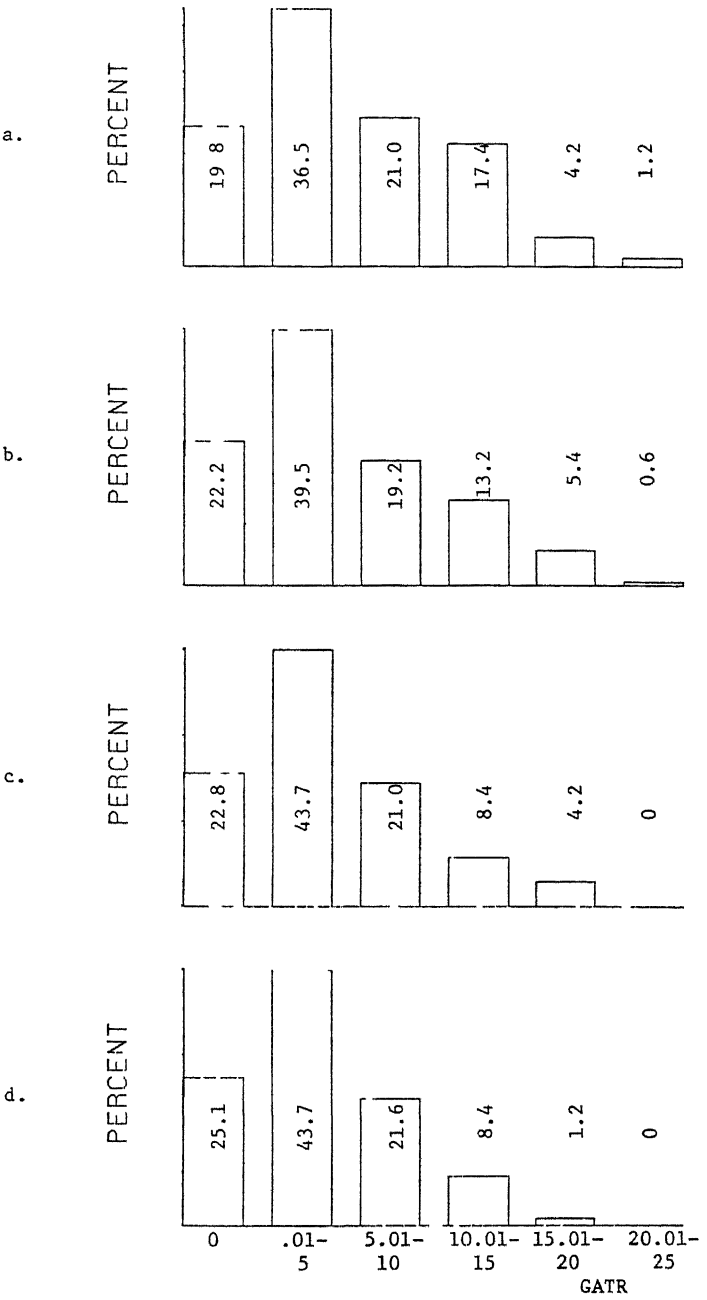

Figure 1: Distributions of the gross average tax rate for application of the 1980, 1981, 1982, and 1983 tax codes to the 1979 FBFM sample data.

A. 1980 tax code[1/]
B. 1981 tax code[2/]
C. 1982 tax code[2/]
D. 1983 tax code[2,3/]

1. Uses declining balance depreciation method
2. ACRS depreciation without expensing provision
3. Depreciable basis is reduced by 1/2 IC as required by TEFRA

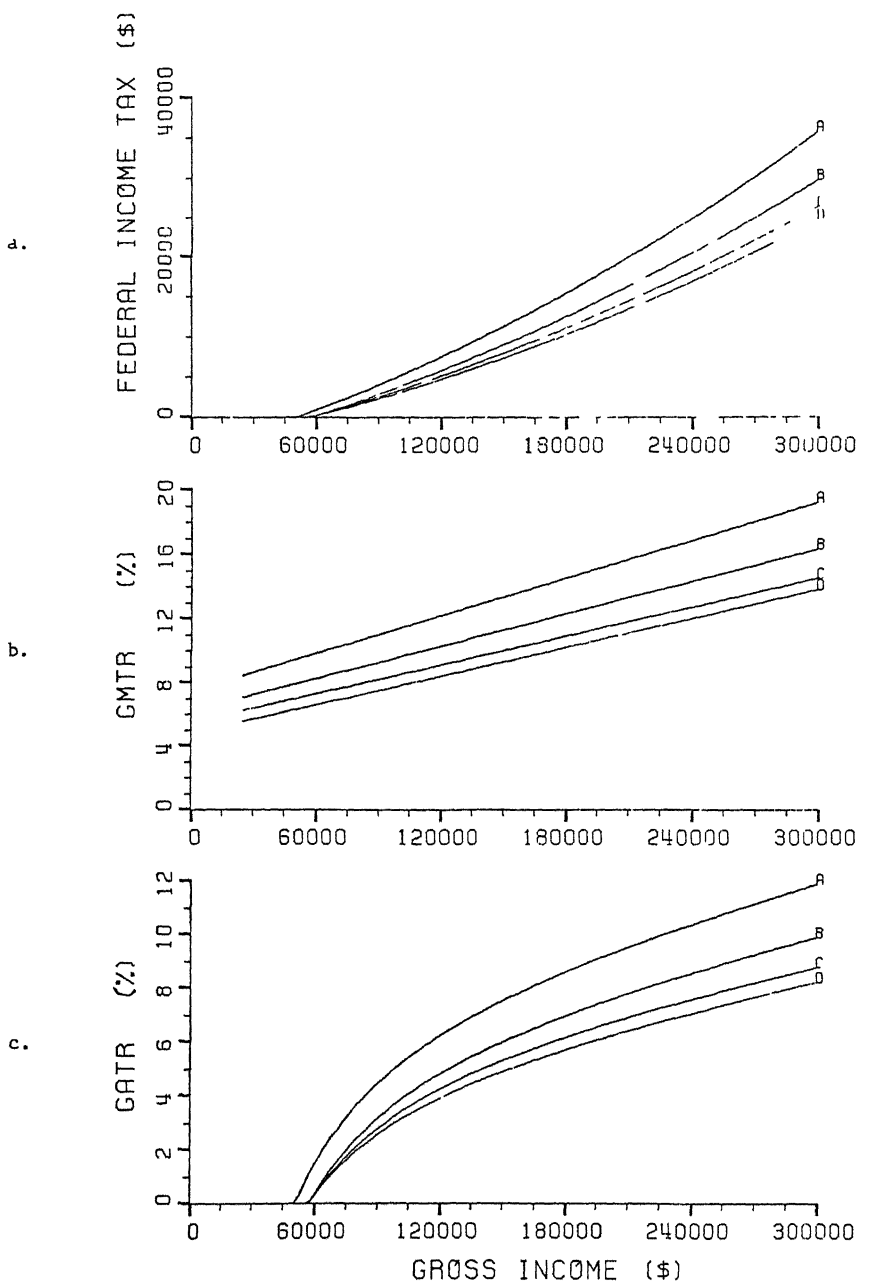

Figure 2: Simulated total tax, gross marginal tax rate and gross average tax rate as functions of the operator's gross income, Illinois FBFM farms, 1979.

A. 1980 tax code[1/]
B. 1981 tax code[2/]
C. 1982 tax code[2/]
D. 1983 tax code[2,3/]

1. Uses declining balance depreciation method
2. ACRS depreciation without expensing provision
3. Depreciable basis is reduced by 1/2 IC as required by TEFRA